THE

CHEMIST

January, 1960

VOLUME XXXVII

NUMBER 1

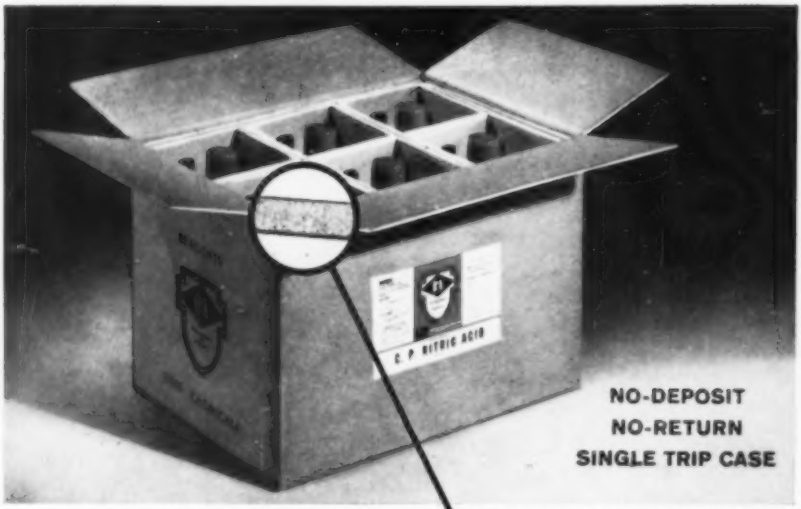
Dr. Lincoln T. Work

Receives Honorary AIC Membership

(*See page* 9)

BAKER & ADAMSON® ANNOUNCES

RUGGED NEW FOAM-CUSHION CASE FOR C. P. NITRIC ACID



Tough inner core of rigid plastic foam absorbs shock . . . is acid resistant . . . cushions bottles against breakage.

For greater safety and convenience in the laboratory and warehouse, B&A C.P. Nitric Acid now comes in a special new high strength shock-absorbent case. Approved by ICC, this new "throw-away" case and its bottle separators are constructed of expanded polystyrene plastic sandwiched between sheets of tough fiberboard. This strong, rigid lightweight foam material reinforces the case . . . reduces danger of breakage.

Lighter weight! Saves freight!

B&A's new no-deposit nitric case holds six 5-pint bottles, is smaller and lighter than the old fashioned wirebound wooden case.

No-deposit, no-return 5-pint bottle!

C.P. Nitric Acid, like all B&A C.P. acids shipped in "throw-away" cases, is packed in 5-pint no-deposit, no-return bottles. Special 2-finger safety grip insures easy handling, protects against slips and drops.

For information on availability in your area, phone or write your nearest B&A office.

BAKER & ADAMSON®
Reagent Chemicals

Allied Chemical

GENERAL CHEMICAL DIVISION
40 Rector Street, New York 6, N.Y.

Offices: Albany* • Atlanta* • Baltimore* • Birmingham* • Boston* • Bridgeport* • Buffalo* Charlotte* • Chicago* • Cleveland* • Denver • Detroit* • Houston* • Jacksonville • Los Angeles* Milwaukee* • Minneapolis • New York • Philadelphia* • Pittsburgh* • Portland (Ore.) • Providence St. Louis* • San Francisco* • Seattle

**Complete stocks carried here and at Baton Rouge, La., Richmond, Va., Kennewick, Wash.*

Thomas announces stocks of Stopcocks with *LUBRICITY*

KIMAX *with* TEFLON® PLUG STOPCOCKS

- *Non-freezing*
- *Self-lubricating*

The new Kimble Stopcock with Teflon* plug combines the well-known advantages of Teflon with some important new features of construction.

Teflon plugs are self-lubricating, non-contaminating and non-freezing even after extended contact with strong caustic solutions. The specially designed washer and nut of the Kimble Stopcock are also of Teflon to facilitate manipulation and prevent binding and leakage.

The exaggerated 1:5 taper of the plug, together with tooling and finish of the barrel, ensure leak-free seating and correct alignment of the plug for smooth turning without binding. Kimble Stopcock plugs of Teflon can be identified by the distinctive orange color of the nut and crossarms, the latter being ribbed to allow a firm grip.

Teflon is the most resistant to chemicals of any material now being used in the manufacture of laboratory ware. At temperatures up to 260°C (500°F), Teflon is inert to practically all chemicals except fused alkali metals, chlorine trifluoride, and fluorine at elevated temperature and pressure.

Twenty-nine items of Kimax borosilicate glassware with Teflon plug stopcocks are illustrated and described in new Kimble bulletin SP-51, copy of which is sent upon request.

*DuPont registered trademark for fluorocarbon resins

All twenty-nine items of Kimax with new Kimble Teflon plug stopcock are in our stock for immediate shipment, and may be assorted with other Kimble ware which qualifies for quantity discounts.

A.H.T.CO. LABORATORY APPARATUS

ARTHUR H. THOMAS COMPANY

More and more laboratories rely on Thomas / *Laboratory Apparatus and Reagents*

VINE ST. AT 3RD • PHILADELPHIA 5, PA.

Telephone Service: Direct private wire New York to Philadelphia (no toll charge) REctor 2-5035

The CHEMIST

Reg. U. S. Pat. Off.

Publication of

THE AMERICAN INSTITUTE OF CHEMISTS, INC.

60 East 42nd street, New York 17, N. Y.

Entered as second class matter April 8, 1936 at the Post Office at New York, N. Y., under Act of August 24, 1912. Second class postage paid at New York, N. Y. Issued monthly.

Subscription price, $3.00 a year to Members, $4.00 to Non-Members. Single copy, this issue, $0.35. Copyright, 1960, by THE AMERICAN INSTITUTE OF CHEMISTS, INC.

Vol. XXXVII | January, 1960 | Number 1

THE AMERICAN INSTITUTE OF CHEMISTS

Council

Officers and Directors:

President, Dr. W. E. Kuhn
President-elect, Dr. Milton Harris
Secretary, John Kotrady
Treasurer, Dr. F. A. Hessel
Chairman of the Board, Dr. Emil Ott

Councilors-at-Large and Directors:

Dr. J. A. Bjorksten
Dr. C. H. Fisher
Dr. L. A. Hall
K. M. Herstein
Dr. D. B. Keyes
Dr. S. D. Kirkpatrick
Dr. John H. Nair
Dr. L. H. Reyerson
Dr. M. Tishler

Councilors:

Dr. A. M. Buswell, *Florida Chapter*
Dr. E. B. Carmichael, *Alabama Chapter*
Dr. G. M. Cunningham, *Western Chapter*
Dr. L. T. Eby, *New Jersey Chapter*
George F. Foy, *New York Chapter*
Dr. D. M. Gans, *Ohio Chapter*
Dr. H. B. Hass, *Past President*
Dr. James L. Jezl, *Pennsylvania Chapter*
H. A. Levey, *Louisiana Chapter*
Dr. A. Ernest MacGee, *Midwest Chapter*
Dr. O. E. May, *Piedmont Chapter*
Albert F. Parks, *Washington Chapter*
Bernard E. Schaar, *Chicago Chapter*
G. H. Taft, *New England Chapter*
Dr. Walter W. Thomas, *Delaware Chapter*
Dr. W. S. Wagner, *Beaver Falls Chapter*
Dr. A. H. Warth, *Baltimore Chapter*
C. A. Weltman, *Niagara Chapter*
Dr J. L. Wilson, *Twin City Chapter*

THE CHEMIST

Editor, V. F. Kimball

Advisory Board:

Dr. Joseph F. Abere
Dr. Ray P. Dinsmore
Lawrence H. Flett
Dr. W. George Parks
Dr. L. F. Pierce
Bernard E. Schaar
Dr. William J. Sparks
P. J. Wood

Contributing Editors:

M. R. Bhagwat
D. H. Killeffer
Dr. Frederick G. Sawyer
Donald Slavin
Florence E. Wall
Martin B. Williams

Department Editors:

Dr. Ed. F. Degering, *Condensates*
Doris Eager, *Opportunities*
Richard L. Moore, *Public Relations*
Dr. Rudolph Seiden, *Chemical Books Abroad*

• • •

Deadlines for THE CHEMIST: For the February issue the deadline is January 15.

• • •

THE AMERICAN INSTITUTE OF CHEMISTS does not necessarily endorse any of the facts or opinions advanced in articles which appear in THE CHEMIST.

Happy New Year!

IN THIS ISSUE

Editorial: Brief Inventory 4

Special AIC Announcements 5-7

- Virginia Chapter, Welcome
- Testimonial To Dr. Van Doren
- The Committee on Membership
- New Beaver Falls Chapter Elects
- Dr. Dutcher to Receive Honor
- New Western Chapter Officers
- Additional "200 Club" Members
- New Officers of Louisiana Chapter
- Chapter Rebates on New Members
- Next Council Meeting

Professional Appointments 7

A Message from the Membership Committee 8

Unchanging Aspects of Professionalism in This Changing World, *Dr. Lincoln T. Work, Hon. AIC* 9

Salute to Lincoln T. Work, *Dr. John R. Dunning* 18

Presentation of Honorary Membership 20

Communications:

- **Comment on Fair Taxation** 21
- **Not a Request—a Suggestion with Reasons** 21
- **On Professionalism** 23
- **Professional Reference** 24
- **"The Role of the Teacher in Modern Society."** 24

Highlights of the Council Meeting 25

Opportunities 32

Friends Departed:

- **Dr. Walter J. Murphy** 33
- **Stewart Joseph Lloyd** 34
- **Dr. Charles S. Fazel** 34
- **Thomas James Lynch** 34
- **Dr. George W. Schaeffer** 35
- **William H. Schaller** 35
- **Dr. Leonard Smidth** 35

On Legislation 35

Professional Reprints Available 36

TO COME IN FEBRUARY

"The Chemical Control Laboratory in the Plant Food Industry," excerpted from a paper by Nelson C. White of International Minerals & Chemical Corp., gives an insight into the important position held by control laboratories in any industry. • Florence E. Wall, F.A.I.C., who receives Honorary AIC Membership in January, offers a fine paper on "The Evolution of the Profession of Chemistry." She is the first woman to receive this honor. Dr. Albert Parsons Sachs, AIC Charter Member, consultant, New York, N. Y., will tell us about her.

Recommended Suppliers and Services

Allied Chemical Corp., General Chemical Div. ..... *Inside Front Cover*
Bios Laboratories 26
LaWall & Harrisson 28
The Lento Press 35
Arthur D. Little, Inc. 22
Nopco Chemical Co. 23
Phoenix Chemical Labs. 30
Robinette Research Labs., Inc. 29
Foster D. Snell, Inc. 24
Solvents Reclaiming & Chemical Works 25
Scientific Glass Apparatus Co., Inc. ..... *Inside Back Cover*
Arthur H. Thomas Co. 1
U. S. Stoneware ..... *Outside Back Cover*

EDITORIAL

Brief Inventory

A BRIEF "inventory" of AIC activities in 1959 may well encourage us in our professional endeavors during 1960.

Dr. Emil Ott, our president during the first half of the calendar year, was greatly impressed with the intensity of interest in the AIC objectives. He summarized it, and incidentally, the pattern of the year, when he said, "The need is there. The AIC is there. All we require is sufficient help to implement our activities." Dr. W. E. Kuhn succeeded Dr. Ott as president, providing continued vigorous leadership.

There were many professional problems. Among them: the encroachment of labor unions into the province of the professions; the encroachment of other professions into "required by law" positions of supervision over qualified clinical chemists; the economic pressures on industrial chemists brought about by competition of tax-exempt organizations with non-tax exempt firms in chemical consulting (*Chemist*, Dec. 1959); the economic problem of high starting salaries for recent graduates compared with the lack of adjustment of salaries of experienced chemists; the arbitrary retirement ages; the problem facing chemists in middle-life when they seek new positions; the education of chemists (*Chemist*, Dec. 1959) . . . These are only a few of the many professional problems that engaged the serious attention of Council, Committees, and Chapters during the year.

Official action was taken at the 36th Annual Meeting on behalf of the professional status of chemists and chemical engineers and on behalf of qualified clinical chemists. (*Chemist*, July 1959 and Nov. 1959 for full discussions.) Also at this Annual Meeting, held in Atlantic City, N. J., in May, a noteworthy panel of speakers developed the theme, "The Chemist and Engineer in the Economy." (*Chemist*, June and July, 1959).

Help came to implement our activities, as it must for a program of such importance to the professions. It came in several forms: The Professional Relations and Status Committee of the American Chemical Society agreed to establish official liaison with our Council. Our representatives to the American Association for the Advancement of Science kept us informed about the professional resolutions considered by that body. As a result of news about AIC activities widely spread through the U. S. by our Committee on New Chapters and Expansion, the following Chapters were brought in during the calendar year: Florida, Michigan, Pittsburgh, Tennessee, Beaver Falls (N. Y.),

Wisconsin, Michigan, and Virginia.

We welcome the New Year with its opportunity to accelerate our professional objectives, and with its promise that more chemists and chemical engineers will join us to solve professional problems.

"The future is a world limited only by ourselves."

Special AIC Announcements

Virginia Chapter, Welcome!

A petition to form a Virginia Chapter was presented and accepted by the Council on Dec. 8. This new Chapter was organized by Charles R. Outterson, F.A.I.C., director, Technical Div., Albemarle Paper Mfg. Co., Richmond, Va., with the cooperation of the Washington Chapter. The Virginia Chapter area includes Halifax County of North Carolina and the State of Virginia, except Loudoun, Fairfax, Arlington and Prince William Counties which remain with the Washington Chapter.

Testimonial to Dr. Van Doren

The resolution passed by the National Council in appreciation of the many services of Dr. Lloyd Van Doren as AIC secretary, from 1944 until his retirement in October 1959, has been prepared in the form of a Testimonial Scroll.

Dr. John L. Wilson, F.A.I.C., of the Economics Laboratory, Inc., St. Paul 1, Minn., national council representative from the Twin City Chapter, has been appointed to present this Scroll to Dr. Van Doren at Tempe, Arizona, on some convenient day this January.

The Committee on Membership

The Committee on Membership, co-chairmen: Dr. L. T. Eby and Dr. John R. Bowman, announces that the following persons have been appointed as members of the Committee:

Chester A. Amick, Bound Brook, N. J.
Dr. Stephen D. Bruck, Wilmington, Del.
Dr. Chas. E. Feazel, Birmingham, Ala.
Dr. Robert W. Freedman, Library, Pa.
Prof. John Happel, New York, N. Y.
Charles Holdt, Nashville, Tenn.
Dr. James L. Jezl, Marcus Hook, Pa.
John A. Kaasen, Hollywood, Cal.
Morris Kenigsberg, St. Paul 1, Minn.
Dr. Malcolm M. Renfrew, Moscow, Ida.
Prof. Eugene G. Rochow, Cambridge, Mass.
Dr. Thomas J. Rollins, Los Angeles, Cal.
Dr. William M. Saltman, Akron, O.
Cecil M. Shilstone, New Orleans, La.
Dr. Rudolph Seiden, Kansas City, Mo.
Dr. Herman Wachs, Princeton, N. J.
Robert C. Watson, Falls Church, Va.
Prof. Saverio Zuffanti, Boston, Mass.

New Beaver Falls Chapter Elects

In November the new Beaver Falls Chapter in Northern New York State, elected the following officers:

Chairman, Clark E. Thorp, President, Fiber Products Research Center, Inc., Beaver Falls, N. Y.
Vice Chairman, Dr. Fritz Rosenthal, Knowlton Bros., Watertown, N. Y.
Secretary, Fred R. Ramage, Latex Fiber Industries, Inc., Beaver Falls, N. Y.
Treasurer, Paul E. LaValley, Fiber Products Research Center.
National Council Representative, Dr. William S. Wagner, Fiber Products Research Center.

Dr. Dutcher to Receive Honor

The Philadelphia Chapter will present its Honor Scroll to Dr. Raymond Adams Dutcher, professor-emeritus of agriculture and biochemistry, Pennsylvania State University, at a dinner-meeting, Jan. 7, at the Warwick Hotel, Philadelphia, Pa.

New Western Chapter Officers

The Western Chapter announces the following officers:

Chairman, John Morrisroe, Pilot California Co., 11756 Burke, Santa Fe Springs, Calif.
Chairman-elect, Stuart R. Garnett, Blue Diamond Co., 1650 S. Alameda, Los Angeles 54, Calif.
Vice Chairman, John A. Kaasen, Los Angeles County Air Pollution Control District, 434 S. San Pedro St., Los Angeles 13, Calif.
Senior Secretary, Dr. Norman F. Johnston, Process Chemicals Co., 8733 S. Dice Road, Santa Fe Springs, Calif.
Junior Secretary, Dr. Robert E. Williams, National Engineering Science Co., 711 S. Fair Oaks, Pasadena, Calif.
Treasurer, Dr. Geoffrey R. Ward, Textilana Corp., 12607 Cerise, Hawthorne, Calif.
Representative to National Council, George M. Cunningham, Olin-Mathieson, 3848 E. Colorado, Pasadena 8, Calif.

Additional "200 Club" Members

The "200 Club" now has 115 members who will each try to bring in ten new members this year. Volunteers may send their names to Dr. L. T. Eby, co-chairman of the Membership Committee, The Enjay Co., Inc., 1141 E. Jersey St., Elizabeth, N. J., or to Martin Williams, chairman of Committee on New Chapters and Expansion, 1013 Pratt Ave., N.E., Huntsville, Ala. Recent additions to the "200 Club" are:

Dr. Joseph F. Abere, F.A.I.C., Minn.
Dr. John R. Bowman, F.A.I.C., Ill.
John M. Cannon, A.A.I.C., Ga.
Dr. Hugh S. Carroll, F.A.I.C., Calif.
Col. Harry L. Cole, F.A.I.C., Ore.
Leo H. Crosson, F.A.I.C., N. C.
Robert R. Dean, F.A.I.C., N. Y.
Howard Farkas, F.A.I.C., N. Y.
Rex O. Gleave, M.A.I.C., Utah
Claude Gortatowsky, F.A.I.C., Ga.
Dr. Lloyd A. Hall, Hon. AIC, Calif.
Dr. William E. Hanford, Hon. AIC, N. Y.
Erwin C. Hoeman, F.A.I.C., Utah
Mrs. Marion W. Hovey, F.A.I.C., Ut.
Dr. A. Edward A. Hudson, F.A.I.C., N. C.
Dr. Kurt S. Konigsbacher, F.A.I.C., N. Y.
Dr. Leon Mandell, F.A.I.C., Ga.
Dr. K. Le Roi Nelson, F.A.I.C., Ut.
Dr. Emil Ott, F.A.I.C., N. Y.
Karl A. Ratcliff, F.A.I.C., Ia.
Gene M. Roberts, F.A.I.C., Ga.
Dr. George F. Rugar, F.A.I.C., O.
Bernard E. Schaar, Hon. AIC, Ind.
Dr. Glenn T. Seaborg, Hon. AIC, Calif.
Dr. Foster D. Snell, F.A.I.C., N. Y.
Dr. Raymond Stevens, Hon. AIC, Mass.
Dr. Walter W. Thomas, F.A.I.C., Del.
Emerson Venable, F.A.I.C., Pa.
Dr. William S. Wilson, F.A.I.C. Alaska

New Officers of Louisiana Chapter

The Louisiana Chapter has elected the following officers:

Chairman, Dr. Winston R. de Monsabert, Professor of Chemistry, Loyola University, New Orleans 15, La.

Vice Chairman, J. D. Smith, Chief Chemist, International Lubricant Corp., P.O. Box 390, New Orleans 21, La.

Secretary-Treasurer, Lawrence E. Brown, Southern Regional Research Lab., P.O. Box 19687, New Orleans 19, La.

Chapter Rebates on New Members

The national Council, at its December 8 meeting, voted to grant to the Chapters 40% of the first year's dues of all new members brought into the Chapters, whether they are obtained by Chapter initiative or otherwise.

Next Council Meeting

The next meeting of the Board of Directors and the national Council will be held Tuesday, Feb. 9, at The Chemists' Club, 52 E. 41st St., New York 17, N. Y. The Board meets at 5:30 p.m.; the Council at 6:00 p.m.

Professional Appointments

Jan. 7, 1960. New York, N. Y. Shelburne Hotel. Dinner and meeting of New York Chapter. Presentation of Honorary AIC Membership to Florence E. Wall, F.A.I.C. Acceptance address: "Evolution of the Profession of Chemistry." For reservations, Dr. Kurt S. Konigsbacher, Evans Research & Development Corp., 250 E. 43rd St., New York 17, N. Y. (MU 3-0071).

Jan. 7, 1960. Philadelphia, Pa. Warwick Hotel, 17th & Locust Streets. Meeting of Philadelphia Chapter. Presentation of Honor Scroll to Dr. Raymond Adams Dutcher, Professor-Emeritus, Agriculture and Biochemistry, Pennsylvania State University. Reception 6:30 p.m. Dinner 7:15 p.m. Subscription $6.25. For reservations: Dr. E. M. Kipp, Foote Mineral Co., Berwyn, Pa.

Jan. 11, 1960. Milwaukee, Wis. City Club, 756 No. Milwaukee St., Dinner meeting of Wisconsin Chapter. ($2.50) For information: James E. Henning, P.O. Box 1175, Madison 1, Wis.

Jan. 15, 1960. Minneapolis, Minn. Meeting of Twin City Chapter. Honor Scroll Award. For information: Dr. Joseph F. Abere, Minn. Mining & Mfg. Co., 2301 Hudson Rd., St. Paul 6, Minn.

Jan. 18, 1960. Atlanta, Ga. Emory University, Alumni Bldg. Meeting of the Piedmont Chapter. Dinner 6:30 p.m. Speaker, Dr. W. A. Calder, Professor of Physics, Agnes Scott College. Subject, "Changing Concepts of the Universe. For information: A. J. Shingler, The Coca-Cola Co., P.O. Drawer 1734, Atlanta 1, Ga.

Feb. 2, 1960. Buffalo, N. Y. Dining Room "B," Norton Hall, University of Buffalo. Meeting of Niagara Chapter. Dinner 6:30 p.m. Meeting 8:00 p.m. Speaker, Prof. Marvin Farber, Chairman, Department of Philosophy, University of Buffalo. Subject, "Modern Advances in Philosophy." For reservations: Dr. J. F. Walker, P.O. Box 517, Niagara Falls, N. Y.

Feb. 2, 1960. Wilmington, Delaware, Kent Manor Inn. Meeting of Delaware Chapter. Social hour, 6:15 p.m. Dinner 7:00 p.m. Speaker Dr. Ivor Griffith, F.A.I.C., president, Philadelphia College of Pharmacy & Science, Philadelphia 4, Pa. For information, Dr. Stephen D. Bruck, E. I. du Pont de Nemours & Co., Inc., Experimental Sta., Carothers Research Lab., Wilmington, Del.

Feb. 4, 1960. Huntsville, Ala. Russel Erskine Hotel. Meeting of Alabama AIC Chapter. Social hour 6 p.m. Dinner 7 p.m. Speaker, Dr. Ottis K. McMahon, partner, Rohrer, Hibler & Replogle, consulting psychologists, Atlanta, Ga.

Subject, "Making Executives Out of Chemists." For dinner reservations: Dr. C. E. Feazel, Southern Research Institute, Birmingham, Ala. (FAirfax 3-6592), or Martin Williams, Redstone Arsenal, Huntsville, Ala. (JEfferson 6-4411, Ext. 37743).

Feb. 4, 1960. Atlanta, Ga. Emory University, Alumni Bldg. Joint meeting of Piedmont Chapter with the Institute of Food Technologists. Dinner 6:30 p.m. Speaker, Dr. Ernest Guenther. Subject, "Essential Oils in South America." For information: A. J. Shingler, The Coca-Cola Co., P.O. Drawer 1734, Atlanta 1, Ga.

Feb. 9, 1960. New York, N. Y. The Chemists' Club, 52 E. 41st St. Meeting and Dinner of AIC Board of Directors and National Council. Board meets at 5:30 p.m.; Council at 6:00 p.m.

Feb. 11, 1960. Philadelphia, Pa. Engineers' Club. Luncheon meeting of Philadelphia Chapter. 12:15 p.m. Speaker: Carl Setterstrom, F.A.I.C., Anisun Corporation. Topic: "The Chemist in Commercial Development." Luncheon reservations should be made by Feb. 9, with Dr. E. M. Kipp, Foote Mineral Co., Berwyn, Pa. (NIagara 4-6800).

Apr. 5, 1960. Buffalo, N. Y. Meeting of Niagara Chapter. Details to be announced.

May 11-13, 1960. Minneapolis, Minn. Radisson Hotel. 37th Annual AIC Meeting. The Twin City Chapter will be our host.

June, 1960. (Day to be announced.) **Minneapolis, Minn.** Meeting of Twin City Chapter. Award of student medals. For information: Dr. Joseph F. Abere, Minn. Mining & Mfg. Co., 2301 Hudson Rd., St. Paul 6, Minn.

May 11-12, 1961. Washington, D. C. Statler Hotel, 38th Annual AIC Meeting. The Washington Chapter will be our Host.

A Message from the Membership Committee

Dr. Lawrence T. Eby, F.A.I.C.

Market Development Division, The Enjay Co., Inc., Elizabeth, N. J.
Co-Chairman of the AIC Committee on Membership

There are some fine ideals to achieve through THE AMERICAN INSTITUTE OF CHEMISTS. Unfortunately, the membership is not large enough to support any expanded activities. Preliminary study shows that the membership must at least double at the same rate of dues to carry on an accelerated program for our rapidly growing profession.

You have the answer. It means each of us must recruit some members for the INSTITUTE. There are those who do not like to think in terms of numbers and expanding beyond their small circle of friends. Such an attitude is not consistent with the activities of the INSTITUTE, which have benefited many who have never been within its membership.

Have you joined the "200 Club?" This is a group of 200 members dedicated to the task of recruiting ten new members each. Perhaps you do not want to commit yourself, but will be one that will try to get as many qualified members as possible. Send us the names and addresses of your prospects, if you want a letter of invitation sent to them by our President.

Unchanging Aspects of Professionalism in This Changing World

Dr. Lincoln T. Work, Hon. AIC

Consulting Engineer, 36 West 44th Street, New York 36, N. Y.

(Presented when the author received Honorary AIC Membership at a meeting of the New York AIC Chapter, held Nov. 12, 1959, in New York, N. Y.)

Tempora mutantur,
et nos mutamur in illis.

THERE is an old Latin adage that we are changed with the changing times. The times are certainly different from what they were at the turn of the Century or even when THE AMERICAN INSTITUTE OF CHEMISTS, now in its 37th year, was founded. Chemists and chemical engineers are in a different professional environment today from that prevailing in those earlier times. They respond and they adjust themselves to this environment, for survival and for achievement.

Yet human nature remains steadfast, and there are attributes of those days which are essential to the chemical profession now and in the times ahead. Let us develop this thought by finding the qualities generic to the professional man, by viewing the problems ahead with respect both to the kind and scope of technical developments and to their social impact on the world, and by pointing to professional development as a matter of concern to the individual and to the user of his services.

In whatever field he practiced, the professional man of yesteryear was an individual distinguished by definite characteristics which gave him stature in his community. He was broadly educated, having devoted years to study. Through this study, he developed for himself skill, and through practice, he developed experience of value to society. He was not a technician, working repetitively according to instructions, but a thinking and creative person.

With more than average interest in people and things about him—the community, the nation, the world—he generally avoided becoming involved in the rough and tumble of the business world or politics. He found his satisfaction in service to his fellow man, whether as a clergyman dedicated to spiritual and social welfare; a lawyer serving the business relations and order in society; a physician attending to the health and well being of individuals and of the community; a teacher devoted to education; or an architect, scientist, or engineer furnishing beauty, utility, and safety in things being made for better living.

He possessed in more than average measure the qualities of honesty, fairness, unselfishness, dependability, and considerateness; and he was

strong in the sense of competence, integrity, and responsibility. As he devoted himself to his purpose in life, and as he lived by the qualities mentioned, he possessed a sense of human dignity which his fellow man respected. Within this simple concept of worthwhile purpose and of human dignity, interpreted in many ramifications in any age, there lies the unchanging essence of the professional man.

During the passing of these earlier years, the individual who practiced alone as an entrepreneur found that his diversified efforts were inadequate for the increasing complexity of his field. For a time, specialists or group efforts in partnerships and in small professional firms were adequate to take care of this. Relations were informal, and individual professional workers had their clearly delineated identities. Even those employed on a salary basis were in small units and had personal contact with others that gave meaning to their work. The sense of purpose and human dignity were not impaired.

Professional Employees Today

Recent years have witnessed the growth of organizations having large numbers of salaried professional employees. This has been particularly true in the case of scientists and engineers, but it is true in some degree in all of the professions. We are learning to work together in teams, but the tremendous growth in our profession has made this problem acute. Aside from perhaps one or two per cent of the chemists and chemical engineers who are individual entrepreneurs, most of the rest are in salaried positions at universities, research institutes, government agencies, and corporations.

Many of these are in large organizations where the techniques of administration are strange to them and the sense of individual status is limited. This largeness, which appears to be a normal and necessary answer to sustaining our living standards, calls for management to develop organization, communication, cooperation, planning, and scheduling to make individual skills effective in a gross effort. The key to success lies in helping each individual to understand and to do his part of the greater task, lest the team falter.

If the professional man in such circumstances will understand that managements are learning to meet the problems caused by size and that the individual is still the ultimate—to serve and to be served—then he too can put his knowledge and experience to work with a purpose and with human dignity, and be a professional man.

There is today a resurgence of professionalism in chemistry and chemical engineering. Not only does it help to meet the problems of a growing field, but it sees into the future with respect to our nation's growth, its

part in the world program, and the serious implications for the future that is being shaped by science.

The Effect of Scientific Progress

In contributing greatly to the material things of life and more basically to some understanding of nature, our science has created the need for an ever larger number of scientists of professional stature. It requires no recital to tell you of the great changes that you have witnessed in the last few decades, nor to indicate what is daily offered in preview of the things to come. The growth is truly explosive, and there will be more and faster change. Each new achievement creates a need for other greater ones.

This burst of technologic progress has had its impact on the so-called "have not" nations, and the whole world is stirring to enjoy the benefits of science . . . It will be interesting to see how all the world reacts to having the good things of life made possible through science. The growth of science in Russia has been rapid; and, because of their singleness of purpose, the Russians have achieved greatly in some areas. This is important to us not only with regard to military power but with regard to future economic strength.

A recent study of Western Science and Technology for the Atlantic Congress had advanced several important ideas. In the coming economic competition, the free world needs an industrial foundation growing from its own scientific and technical resources. This means more basic research, more qualified scientists and engineers, better teachers adequately recompensed, closer relations between scientific people in the Atlantic Community, space research jointly with Russia or effectively done jointly by the free nations, study of world energy requirements and their resolution, and above all the need for a vigorous scientific, technologic, and energy community of Western Nations not fragmented by political boundaries.

Whether we wish it or not, there is a world race for scientific achievement, and the problems being created raise question as to the future of man. Chemistry has considerable responsibility for the exploding world population through its contributions to nutrition and sanitary and medicinal products. It has thus created for itself new problems of food, water supply, clean air, and sanitation. The large use of fossil fuel raises whole new questions of changing climate and even geography that may develop. There are still other problems of education and of the use of leisure. The world is not yet ready for these benefits: we still have to face rampant nationalism. Here is a challenge to all of our science.

The leadership which is now ours calls for us to be there first with the most of the best. We are not ready

to meet the responsibilities placed upon us. As a nation, we lack a developed purpose. Max Ways points out that we have no policy objectives beyond survival and says, "We cannot carry a message that we have forgotten." How different is this from the founders of this nation, who pledged their lives, their fortunes, and their sacred honor to the cause of liberty! There has never been a greater need for numbers of the highest type professional scientists, for they must help to guide our destiny.

The development and care of chemists and chemical engineers as professional men is important today. The giver and the user of services have a mutual obligation. Particularly in research where the emphasis must be on creativeness, that which stimulates is gain and that which inhibits is loss.

The Critical Area

The acute sensitivity of business to economic forces makes industry a critical area for scientists. Opinion Research Corporation has made a survey and finds that scientists are not very happy about their lot in industry. They want freedom from pressure, they think politics pay, they feel neglected, they seek professional stature, and they feel that their big new ideas should receive more recognition. Whether these opinions stem from immature managements or from lack of adjustment and understanding on the part of the scientist, the problem is real. It leads to one conclusion —that the available technical resources of the country are not fully utilized.

The individual who would be a professional scientist today needs to develop such a career each step of the way. In that he should have the benefit of advice and guidance, not only during the formative years, but during the stages of advancement in his profession. Quality of education is important. Standard curricula in the public schools with each student progressing at the same pace have had their day, and they are inadequate. Although better methods of teaching are being employed, they could stand extension and improvement. Increasing use of methods for measuring talents and interests is helpful at all educational levels. Nor can we ignore the inspirational values of great teachers whose enthusiasm and vision of the challenge become a part of the student.

The Student Must Choose

For himself, the student should not delay the choices which he must make in building a life. Breadth in education is valuable in finding the way and this includes extra-curricular interests as well as the subjects of study. Activities of the professional societies and alumni associations in helping guidance counsellors, and the growing literature on selection of a career and on practice of a profession are helpful, but a still more systema-

tic coverage is needed to guide the students, and particularly the best minds among them, into their best careers. Lack of money should not be an obstacle to training for usefulness.

As the student nears the end of his college career, he faces a critical step. Should he study for a master's degree or further for a doctorate? That extra course work leading to a master's degree is almost an essential for those who want to practice chemistry and chemical engineering. I might point out that during the depression of the early thirties, the masters were placed in their field at the expense of the bachelors' graduates.

The doctorate is another question. For research and its fringe areas and for teaching, the unique disciplines and the close association with the professors are valued assets. In other cases, the additional training could be a waste of time and possibly even be a handicap. The loss is greater than the gain, if advanced degrees are taken for their prestige value alone, for life will in the long run reward on merit—but merit must be taken broadly as adaptability to environment and effective functioning therein.

The Young Graduate Must Adjust

The young graduate is usually ill prepared for the great change after graduation. All too often the universities devote their efforts entirely to technical subject matter and the processes of reasoning, with little regard for the economic and personal factors in life. Until they remedy this, the employer must carry the teaching job to help the young worker adapt himself to his position.

By the same token, the individual is ill prepared to select his work. The young graduate, confident that he knows all about what he is doing, often accents salary and fringe benefits and pays so little attention to his real opportunities that he is disillusioned and frustrated and is soon a candidate to change jobs. An interneship has its points, as a means to develop the solid foundation for growth and achievement.

The one great class of unemployables in the depression of the early thirties were those technical men who had quickly risen to high positions during the manpower shortages of World War I and during the decade of rapid growth of the chemical industry following that war. They had no solid groundwork on which to start again when they were dropped from executive position.

In advising a young man several years ago on his choice between positions, I pointed out that he should take the one that would make him the better man by his forties. He made that kind of a choice, and seems to be well on his way up. A young professional worker can help to make his skills useful; he can avoid the show of immaturity as of being un-

duly sensitive or by voicing strong opinions on things without adequate knowledge. It is important that he try to understand the people for whom he works, what is their objective, and how they operate to achieve it.

The many ramifications in career choices within the profession are too involved for inclusion; but a few references may be appropriate. Teaching and institutional research are satisfying occupations for professional people. In a university environment or at a research institute, there are valuable associations both within and outside of the department of one's work. Many have found in it a basis for real growth and maturing, leading to a career or to other activities.

Government is a big business engaging the services of chemists and engineers. Taking cognizance of some poorly paid technical personnel in municipal service about whose fate the AIC has protested, we may consider briefly our federal government and its civilian employment. As a training ground, there is much to be said for government positions. Operating rules are good, but at times stifling to human dignity. Yet there have been great names in scientific career service, dedicated public servants and professional men in its finest sense.

Industry affords a variety of opportunities for the scientist and the engineer. These range from technical work in research to production, purchasing, sales, and management, and from the intimate relations of small business to the impersonal relations in large organizations. In creative technical work or in decision making administration, the aspects of professionalism may prevail, while in areas more remote from such use of technical skills, the professional attitude can be a healthy influence. Some trained in science and engineering are serving in what might be considered an interneship, including routine to establish the background for a young man's growth. Others are involved for a long time in continuing routine so that they lose professional stature.

The Obligations of Management

Having considered the man's responsibility for becoming a true professional, let us consider what can be done for him in his career. This is a problem of management—a term used generically to cover supervision and policy making in any of the fields of endeavor. Industry will be emphasized because of the problems cited and because good industrial managements have achieved the greatest success in solving the problem against the odds of economic pressures; but the same ideas will apply in other environments.

The professions neither seek nor have a monopoly on high purpose and the characteristics that make for dignity. These may also be attributes

of organizations for which professional men work. Yes, even companies may and do have a high purpose to serve with their talents, refusing to undertake things for the sake of money alone — and usually doing quite well financially in ways more in keeping with their purposes and their special abilities.

Such companies or other types of organizations usually do not have trouble with professional scientists and engineers for they understand each other, concurring with Dr. John McKeen, Hon. AIC, when he says, "The individual cannot be submerged into anonymity without eventual damage to a company's progress." Professional men suffer frustration and their morale deteriorates when management defers making important decisions. Remember that no decision is a decision, and the consequences are just as real as though the choice were affirmative or negative.

One of the prime considerations some investment people use to evaluate a company is corporate honesty. When this is lacking, there is trouble all the way down in the organization. Stability is important too. At various times, even the biggest companies have slashed the scientific work for budgetary reasons. Yet this creative work might be the thing to get them back in business. What they have done is quickly communicated to the profession. Other companies seek the men they want to keep and schools guide their graduates elsewhere. The price to a company of a drastic cut is high, lasting many years. Fairness is important, too; but, alone, that is not enough. The basis for decisions needs to be understood by those involved. This means regular evaluation of workers and adjustment of pay and responsibilities to conform with each person's value. When pay adjustments are out of line for an extended time or when new personnel are employed at higher salaries than those of long term employees doing equivalent work, dissatisfaction results and men seek employment elsewhere. Once this is known, a company may be extensively raided for personnel.

Names on technical papers and on patents need to fit the facts. Men have sought new positions because the research director takes out all the patents in his name. It is better for management to lean backward in that regard. In fact, it is good practice to give the professional worker all the responsibility he can take, and he, in turn, must not be secretive and use his position for pressure purposes.

The employment of new people is a key responsibility of management. Interviews by several company employees to determine the candidate's background, his potential skills, and his attitudes are worth the effort, since the composite analysis is likely to be objective and thorough. The decision as to whether or not to hire

will be better thereby. The man should be given to understand his new assignment, where it can lead, and how it is related to others.

The standard job description is inadequate for research personnel, though it may be used to delineate the primary requirements. Then, any extra talents are a bonus. The organization chart can be too rigid and men feel boxed in. If they understand it is flexible and is adjusted to each man's growth, that is all they could ask. These are continuing obligations of employment.

Professional Problems and Inequities

When management does these things and then encourages a man's growth, the major criticisms found by Opinion Research Corporation fade away. That this is not always practiced accounts for the hassle about printing degrees after a man's name, which has limited value and many ridiculous elements. The man who received his title of doctor from the school of hard knocks is more certainly of proven worth than the one who equates ability with degrees or who would create invidious class distinctions.

There is one other point on that study. It is small wonder that the scientist, seeing his ideas and developments of new things grow into big business, wonders if his contribution is recognized. Often he forgets how many others had to contribute to the development before it broke the business barrier to prosper. Or that the scientist, seeing labor's economic gains from his improvements in new products and technology, wonders if he should organize to get recognition and proper recompense.

It is hard to visualize compatability of unionism with true professionalism. Rather the alleviation of inequities can be handled through professional societies and through the position changes which elevate the good organizations and lower the bad. Perhaps the one other requirement is a good supervisor, one who is a true professional. With such we can give our chemists and chemical engineers that feeling of purpose, that incentive to build skills and experience, and that feeling of human dignity which is so essential.

We are sensitive to the value of a man with respect to his food, clothing, residence, and health; but how about his mind and heart? In the late Prof. Daniel D. Jackson at Columbia and in Dr. Franz Hirschland at Metal & Thermit Corp., I was fortunate to report to good leaders. They encouraged creativeness, they were interested in people, and they were dependable in helping to resolve problems fairly and openly.

Nothing serves as well for illustration as contrasting examples:

Case I

A large chemical company, faced with the sudden loss of its vice president for research and the impending

retirement of the research manager, called in a group of consultants skilled in executive placement. Available candidates from within the company were selected by its executives, and their records assembled for study.

The men were brought together in a leaderless round table to discuss the company's problem in research. The consultants quietly observed each man's contributions; then after the meeting, each consultant interviewed each man separately. One was proposed for manager of research and the company made the appointment; but none were qualified for the top position.

The consultants then located an experienced research leader outside the company who was made vice president for research. The company had kept faith with its men, and the reason for going outside was clear —the facts spoke for themselves. How different this is from a sudden appointment made without any reference to the useful people already established in the organization.

Case II

A chemist faced with moving his home decided to answer advertisements for personnel. A competing company needing his skill made him an offer, although there was strongly divided counsel within their midst with respect to ethics involved. He resigned and told no one about the new offer until the day he left. Then he told a friend in confidence, but it was too hot to keep.

So his old company secured an injunction against his taking this new position. After many bitter words between people in the two companies, he was obliged to sign an agreement with his old company that he would not work in the same subject area for a stated period of time. What a mess —hardly professional!

How different is the case of another scientist in a neglected unit of a large corporation. A competitor desired to acquire his services and could offer him the type of work which he desired. Before taking any action, the competitor's people carried it to their vice president, who talked it over fully with the vice president of the man's company, explaining that the work would be different and there would be no violation of confidence. With consent to try, the competitor did secure his services, and the man is happily situated.

Today as years ago each professional man must make for himself the distinguished place he deserves. By training and experience he develops the skills and applies logical thinking to derive his answers. The technical and the worldwide needs of today are his opportunity. With those qualities of purpose and human dignity which are the attributes of the professional man, he can serve well today as he has served through the ages. This is the lesson of history.

Here is a creed which is ageless. Though it might well have been contemporary with Hippocrates and the oath that bears his name, it is current. This is the Engineers' Creed, adopted by the National Society of Professional Engineers, June 1954:

The Engineers' Creed

As a Professional Engineer, I dedicate my professional knowledge and skill to the advancement and betterment of human welfare.

I pledge:

To give the utmost of performance;

To participate in none but honest enterprise;

To live and work according to the laws of man and the highest standards of professional conduct;

To place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.

In humility and with need for Divine Guidance, I make this pledge.

Salute to Lincoln T. Work

Dr. John R. Dunning

Dean, School of Engineering, Columbia University, New York, N. Y.

(Excerpts from a talk presented when Dr. Work received Honorary AIC Membership at a meeting of the New York AIC Chapter, Nov. 12, 1959, New York, N. Y.

I TAKE a special institutional pride —a dean's pride—in Dr. Lincoln T. Work's accomplishments because he is a Columbia man. He took his Bachelor of Arts degree at Columbia in 1918. He received the degree of chemical engineer from Columbia in 1921. He took his master's degree in chemical engineering at Columbia in 1924, and his Ph.D. in the same professional specialty at Columbia in 1929. Meanwhile he had become an able and respected member of our staff.

Between 1921 and 1940 he taught chemical engineering at Columbia with the successive ranks of instructor, assistant professor, and associate professor. He taught electro-chemistry, the chemical testing of engineering materials, process development, plant design, and basic operations of chemical engineering. He helped to create and initiate the course in process development at Columbia, a course which was recognized as an outstanding contribution to the engineering curriculum and which other institutions have been glad to adopt.

He has always been concerned with a close working relationship between the academic world and the world of practical accomplishment, and he was instrumental in administering what were then called "extension" activities at the graduate level—graduate coursework for men in industry. He was assistant to Dean Barker in charge of this important area.

When he left Columbia in 1940, it was to enter the world of industrial research and development . . . But indeed, by that time he was no stranger to that world. He had conducted a most successful consulting practice from his office in Havemeyer Hall for 19 years. Perhaps, if I were the dean of some other faculty, I would either suppress this shocking fact or make it the occasion for somber reflections on the pitiful academic salaries that force teachers to take on outside work. But I am dean of an engineering school, and the fact does not shock me. Whatever may be wrong with the salary schedule (and there is plenty wrong with the salary schedule), it is not because of the salary schedule that our teachers do consulting work. We encourage them to do it. We virtually expect it of them!

We are proud of our historic position as a faculty in which professors are not afraid to face the severest tests of professional practice; a facul-

ty in which arts are taught by artists; a faculty in which there is no snobbish separation between town and gown. To no group does that old saw that those who can, do, and those who can't, teach, apply less than to engineers. And to no engineer whom I know does it apply less than to Link Work.

Ten years ago he left his job as director of research and development at The Metal and Thermit Corporation to become a consulting engineer in independent practice. His services include research management, process development and design, and laboratory research and development. He has dealt with abrasives and adhesives; with ceramics and confections; with cosmetics and fertilizers; with dyes and fuels; with insecticides and medicines; with Portland cement and textiles.

Our present atomic leadership owes a great deal to this man, which few probably know. During World War II, Link Work and his Metal and Thermit Group gave tremendous help to the Manhattan Project. Following the work on fission of U-235, and our invention of the Gas Diffusion Separation Process, it was necessary to develop porous separation barriers, fine enough to serve as "atomic sieves." Link Work's fundamental studies in fine metal powders, and his company's experience in production of these powders, provided tremendous help in making possible the huge atomic plants at Oak Ridge, Paducah, and Portsmouth, which gave and maintain our atomic leadership. . . .

Some very distinguished establishments have consulted Dr. Work. I have consulted him myself. It is only within the last few months, in fact, that Dr. Work has drafted for me a report on the standards and administrative outlines of a good university research policy. This is, as you may know, a troublesome and complicated question, one which has never even been clearly defined in most institutions, much less resolved.

I regard Link Work's report as a model to which not only my own faculty but many colleges and universities throughout the country will one day be clearly indebted. I wish it were not at this stage an internal document so that I could tell you some of the strong, sensible, just, and acute things that it says about research and its meaning. It is documentary evidence of the fact that Link Work has never lost his sure insight into the necessary relation between an institution of scholarship on the one hand and the practical and productive community on the other.

Dr. Lincoln Work is, in fact, the embodiment of that relationship. He has never ceased his own scholarly activity. I was astonished to note the extent of a list of his papers and patents over the last third of a cen-

DR. DUNNING, DR. WORK, DR. KUHN —C & EN

tury—they average better than three a year.

I am honored to have been permitted to say a word by way of tribute to a man whom I admire, whom I rely on, to whom I am more grateful than I could ever say—Dr. Lincoln Thomas Work.

Presentation of Honorary Membership

DR. LINCOLN T. WORK, consulting chemical engineer, New York, N. Y., and former president of THE AMERICAN INSTITUTE OF CHEMISTS, received Honorary AIC Membership at a meeting sponsored by the New York AIC Chapter, held at the Hotel Shelburne, New York, N. Y., November 12, 1959.

Dr. E. J. Durham, director, Nichols Laboratory, New York University, and chairman of the Chapter, presided.

Dr. John R. Dunning, dean, College of Engineering, Columbia University, introduced Dr. Work. Dr. Wayne E. Kuhn, general manager, Research and Technical Department, Texaco Inc., and AIC president, presented the Honorary Membership certificate. Dr. Work responded with a paper on "Unchanging Aspects of Professionalism in a Changing World." (See preceding pages.)

The citation reads:

To
Dr. Lincoln T. Work

In recognition of his contributions to the education and training of young chemical engineers; his devotion to the promotion of high professional standards and recognition of the chemist and chemical engineer as professionals; his yeoman work in advancing the objectives of the AIC; and his life-long exemplification of the ethical practice of his profession.

Communications

Comment on Fair Taxation

To the Editor:

I found Dr. Kuhn's plea for fair and equal taxation (Editorial, THE CHEMIST, Dec. 1959) particularly interesting and worthy of comment. All of us are burdened with taxes, many of them unfair and inequitable. The hodgepodge of tax laws has long, obviously, been in need of revision. However, each revision, so-called, seems to create more "tax shelters" than it eliminates discrepancies, inequities, etc.

One might hope that a fairly simple approach could be developed whereby the needs of the Federal government can be met simply by individual and corporation upon payment of a certain percentage of gross income; this percentage to be graduated according to size of income and perhaps according to type or category of enterprise. Thus individuals would get uniform treatment and businesses would likewise be treated according to their income and contribution to the national economy.

I note the NAM policy, quoted in Dr. Kuhn's editorial, comments that "no tax favoritism should be shown any competitive group whether it be private, corporate, cooperative or association." Then they throw the curve, which is basically a plea for the elimination of what they describe as "the present unfair, inequitable and discriminatory distribution of tax burdens between cooperative and non-cooperative enterprises . . ." This is special pleading as far as I am concerned and goes directly against the argument that taxation should be fair and equal. Nothing is said in the statement about eliminating such "tax shelters" as the "depletion allowances" offered to oil companies, the spurious "business expense allowances" offered to the heavy spenders and entertainers in many segments of advertising, promotion and sales, etc.

If we are to be for fair and equal taxation then let's be for it all the way!

I do question whether voluntary associations, whether by professionals, farmers or business people, formed for the purpose of engaging in activities for the common good and organized not-for-profit or organized so that all returns received from activities are returned to the members should be treated on the tax books in the same fashion as organizations which are frankly dedicated to obtaining maximum profits.

However, I do believe that all should pay taxes, since all derive advantages from the competitive system under which they flourish.

—Michael H. Baker
Minneapolis 5, Minn.

Not a Request — A Suggestion with Reasons

To the Secretary:

When THE CHEMIST for September 1959 was out one of our local

Chapter members noticed the note on page 343 about my suggestion as to the use of M.A.I.C. or F.A.I.C. on letters. He asked: "What good do you think that would do?" And why would I "request" that it be done?

It sounded a little as if I might have made the suggestion for my own benefit. But I am retired and my chemical career is over. I had no ax to grind. I told Dr. Van Doren, as my letter proves, that I expected him to tear my idea to pieces; he surprised me by writing that he thought the idea good. For the record, I am not happy about having it said I "requested" anything. I thought my suggestion might help chemists to overcome the arrogance, smugness, and conceit of business men, lawyers, and accountants who have no understanding whatsoever of scientific men. I think anything might help that would tend to reveal to any man his own appalling ignorance . . .

The fact is that I am burned up over this matter of recognition of scientific men. It ought to be apparent that we are paying dearly because it is sales managers who make the big money and get the full recognition and . . . sales managers never make contributions to basic scientific truth. . . .

I think you are right in giving recognition in THE CHEMIST to men who went through the long pull to obtain a Ph.D. . . . I am not jealous or envious of Ph.D.'s. I am merely glad we have them! By the same token I think AIC members deserve what recognition there is available to them: They earned membership by hard work and study, and not by buying it with money. . . .

The following quote from *The Washington Star*, Nov. 11, 1959, makes me wish I could break some heads! The Washington newspaper told Dr. Wessel some time back that Ph.D. chemists would not be called "Dr." But see how a . . . wrestler is designated:

> "Haystacks Calhoun . . . will meet Dr. Jerry Graham . . . in the feature match of tomorrow night's wrestling program." . . .
>
> —W. E. Bailey, F.A.I.C.
> *Washington* 16, *D.C.*

Arthur D. Little, Inc.

ADL offers experience and capability in:
- Corporate Planning and Organization
- Advanced Research and Engineering
- Product Research and Development
- Production Engineering
- Market Analysis and Sales Planning

ADL scientists and engineers work closely with client organizations in performing assigned work through any desired stage of development.

Consultants to Industry
SINCE 1886

Cambridge • New York • Chicago • Washington
San Francisco • San Juan • Edinburgh

On Professionalism

To the Editor:

The New York Times, Oct. 30, 1959, carried an item entitled, "Rickover Assails 'Yes Man' Trend." In it appears the following statements:

"At the outset, the pioneer in the development of the atomic submarine told the physicians in the audience that it was because they would 'never submit to orders from a layman' on how to diagnose or treat disease that they were able to retain their professional standing.

"Admiral Rickover emphasized the 'never' and the 'orders' and indicated that professional men in government agencies were not always so fortunate. In his own group, he said 'we have had to waste thousands of hours, patiently explaining the ABC's of reactor technology to administrators who attempt to make technical decisions about nuclear reactors without understanding them.'

"He saw the 'greatest danger to our nation' in what he called the 'determination of administrators to turn professional men into technicians and obedient 'yes' men.

" 'It may yet cost us our freedom,' he warned . . .

"The work of professional persons in bureaucracies is severely hampered by administrative interference. We have such interference because we do not draw clear lines between the respective role of the professional man and the administrator and because, of the two, the administrator enjoys the higher prestige and position. He is in fact king.

"The administrative head of a large bureaucracy is the nearest equivalent we have to an absolute monarch—something of an anachronism in a democratic society. He runs his bureaucracy in an authoritarian manner; he expects unquestioning obedience from his subordinates, even in matters in which they are expert and he is ignorant; he tolerates no criticism of his organization from within or from without.

"This excessive power of administrators is a consequence of our respect for concrete things . . . and our disrespect for things of the intellect, for the highly endowed and rigorously educated professional expert whose only capital is his excellent mind.

"Good professional people have a high I.Q. that puts them in the top one, or 2 per cent of our population; in bureaucracies, they are commonly the subordinates of men of substantially lower intellect."

A SKILLED HAND IN CHEMISTRY...AT WORK FOR YOU

- Wetting Agents
- Detergents
- Plasticizers
- Softeners
- Penetrants
- Deflocculants
- Defoamers
- Resin Emulsions
- Latex Thickeners
- Dispersants
- Emulsifiers: Anionic, Cationic, Nonionic

NOPCO®

NOPCO CHEMICAL COMPANY
60 Park Place
Newark, N.J.

Harrison, N. J. • Richmond, Calif. • Cedartown, Ga.
Boston, Mass. • Chicago, Ill. • London, Canada

If one substitutes the word "corporations" for "Governmental agencies" and further substitutes "management" for "administrators" one is able to carry over the Rickover analysis from governmental organizations into many corporation organizations.

It is the age-old legal relationship of Master and Servant, colloquially termed Boss and Employee. A non-professional boss, often of little or no technical education, often tells a professional chemist to do this "or else." And the professional chemist always says "Yes," fearing being fired and blacklisted as non-cooperative.

If a professional status of chemists is ever to be attained, the corporations who employ 90 per cent of the chemists must respect the status of the chemist. And this status of the chemist will be attained only if he retains some property rights in his inventions at least for the life of a patent obtained thereon. By retaining a property right in inventions and any patents obtained thereon, the chemist is free from a feeling of servitude or bondage, as he becomes a co-owner of his intellectual property.

—Dr. Frank Makara, F.A.I.C.
New York, N. Y.

Professional Reference

To the Editor:

May I call attention to a fine, sincere article by Dr. Philip A. Roussel, of E. I. du Pont de Nemours & Co. entitled, "Responsibility of the Chemist—He can raise his status by fulfilling obligations to himself and his profession, his job, and his society," in *C & EN*, Nov. 9, 1959.

The young author forgot one important point. Great scientists always help their colleagues or fellow scientists.

—A. N. Onymous
New York, N. Y.

"The Role of the Teacher in Modern Society"

To the Editor:

I have read with absorbing interest an article entitled "The Role of the Teacher in Modern Society" (Dr. R. P. Allard) in the October 1959 issue of THE CHEMIST. I would like each member of our faculty to have the opportunity to read this article...

—Dr. Carl M. Hill, F.A.I.C.
Nashville, Tenn.

FOSTER D. SNELL INC
RESEARCH AND DEVELOPMENT CONSULTANTS

Completely staffed with over 100 specialists, equipped with 10 stories of laboratories, backed by 36 years of experience in many fields:

Product Development - Analyses
Engineering - Market Research
Physical Measurement - Toxicology
Bacteriology - Animal Work
Food Technology

Bulletins and detailed information on request without obligation. Call WAtkins 4-8800 or write to:

FOSTER D. SNELL, INC.
29 W. 15 St., N.Y. 11, N. Y.

Highlights of the Council Meeting

The National AIC Council met Oct. 1, 1959, at the LaSalle Hotel, Chicago, Ill. Dr. Wayne E. Kuhn, AIC president, presided. The following officers, councilors or alternates were present: Dr. Johan Bjorksten, Dr. D. M. Gans, James E. Henning, K. M. Herstein, Dr. F. A. Hessel, Dr. W. E. Kuhn, Dr. J. H. Nair, Dr. E. Ott, Dr. L. H. Reyerson, B. E. Schaar, Dr. R. Seiden, Dr. W. S. Wagner, M. B. Williams, and Dr. J. L. Wilson. Vera Kimball was present.

President Kuhn reported that he would speak to the Alabama Chapter, Oct. 6; to the Florida Chapter, Oct. 21, and to the Piedmont Chapter, Oct. 22.

Professionalism—World-Wide

He announced that he had been much interested in a certain activity which some AIC members feel should not be considered; others think that it should be: "I think we are at a crossroads and we may have to decide whether the AIC needs to give consideration to the professional status of chemists and chemical engineers outside the Continental limits of the U.S. Russia and the Communist countries have recognized chemists and chemical engineers and they have improved their status. A number of people who have been in Europe find that this movement on the part of Russia to improve the profession of chemists and chemical engineers has gained status in South America. It has nothing to do with political thinking. But Russia has encouraged professional thinking throughout Europe and the Communist bloc and South America. What is the price tag going to be eventually?

The question is whether we should confine our interests; whether we should endeavor to expand our thinking to the free world, or whether we should confine it to the continental areas, letting this movement expand throughout the Communist bloc. Finances constitute a part of the problem of whether we hope to exert influence over and beyond this country or whether we influence in NATO groups. Should we ignore this situation? Dr. Milton Harris is in complete accord that we should take a look at this."

Dr. Bjorksten said that there is an unhealthy lag in the salary status of older groups of chemists. Those who have spent 10 to 15 years in positions have not received salary raises in proportion to those received by chemists who have recently come out of school into industry. There is a movement on the part of certain research organizations to do research at half of its customary cost, which represents a trend toward depressed salaries for chemists. "The AIC cannot stay confined to our continent, but must be concerned with world wide salaries and conditions."

Upon motion, the matter of whether the AIC should attempt to exert influence outside the U. S. was referred to Dr. Reyerson's Committee on the Implementation of the Aims of the AIC.

Chapter Rebates

Dr. Nair presented the report of the Special Committee to Consider Chapter Rebates on New Members. This report was referred to the chairmen of the Chapters, requesting their comments before the next Council meeting, when the report will be acted upon.

CHEMICAL WASTE DISPOSAL

1. Many industrial plants, school laboratories, hospitals and others have chemical wastes which cannot be disposed of by ordinary means. This problem causes practices and risks that are dangerous and expensive.

2. Facilities are available to take care of these objectionable wastes cleanly, safely and economically. Any amount of any type of material (excluding radio-active wastes) can be handled by us. Our firm's experience over the last 7 years has encompassed most types of industrial and laboratory chemical wastes, such as:

a. Plating room: cyanides, chromic acid, plating solutions, heat treating salts, etc.

b. Finishing department: paint and lacquer sludges, thinners, solvents, etc.

c. Laboratory: metallic sodium, lachrymators, toxic materials, ethers, solvents, exotic chemicals, etc.

d. Plant: spoiled batches, by-product streams, etc.

3. We treat and dispose of these wastes in compliance with all pertinent regulations of city, state and federal agencies.

4. For help on a specific problem, call us NOW.

Solvents Reclaiming & Chemical Works Inc.

43-11—19th Ave., L.I.C. 5, N.Y. AStoria 4-1448

Council Procedure

Dr. Ott submitted the report of the Special Planning Committee on the matter of "Streamlining the Operations of the Council Meeting." This report was accepted and its recommendations will be put into effect.

Resolution on Retirement of Dr. Van Doren

Mr. Herstein, chairman of a Special Committee to Prepare the Resolution on the retirement of Dr. Lloyd Van Doren as AIC Secretary, presented the following, which was approved:

Resolution

WHEREAS: Dr. Lloyd Van Doren, F.A.I.C., a Charter Member of The American Institute of Chemists, has served the organization as Secretary for fifteen years, and

WHEREAS: His retirement from the active pursuit of his profession to quiet living in Arizona has prompted his resignation as National Secretary, and

WHEREAS: Dr. Van Doren has worked assiduously and continuously to advance the objectives and program of the Institute throughout its existence in his present, and in many other capacities, and by his genial friendship and quietly wise counsel has been of inestimable value to all members of the Institute,

BE IT THEREFORE RESOLVED: That the National Council of The American Institute of Chemists, meeting in Atlantic City, N. J., on the 13th day of September, 1959, in regretfully accepting his resignation extends to Lloyd Van Doren its deep gratitude for the many years of happy association and service, and its heartfelt wishes for his continued health and well being.

—Wayne E. Kuhn, *President*
Emil Ott, *Chairman of the Board*

Committee Reports

Mr. Williams presented mimeographed copies of the Report of the Committee on New Chapters and Expansion. (See THE CHEMIST, Nov. 1959, p. 411).

Letters from Benjamin Sweedler, chairman of the Committee on Constitution, approved the proposed constitutions for the Florida and Beaver Falls Chapter, and the Council voted its approval.

Chapter Reports

Dr. Gans presented mimeographed copies of the report of the Ohio Chapter. Mr. Henning reported that the new Wisconsin Chapter would hold a meeting on Oct. 13.

Dr. Seiden reported that the Midwest Chapter had held a meeting with a 7-speaker panel on "Opportunities for Students in Chemistry and Chemical Engineering in the Midwest." Over 150 students and teachers were present. He suggested that AIC members on business trips make themselves available to speak before Chapters in the areas which they are visiting.

Dr. Wagner announced that the Beaver Falls Chapter would meet in November. Dr. Wilson reported that Dr. Kuhn spoke at the September meeting of the Twin City Chapter. On Nov. 13, a panel meeting will be held on "What Should Technical Societies Offer Their Members." Plans were underway for the 37th AIC Annual Meeting in Minneapolis in May.

Mr. Herstein reported that the New York Chapter met in September to hear Dr. Ott speak on, "The Chemist in Europe—His Opportunities and Responsibilities." Honorary AIC Membership would be presented to Dr. Lincoln T. Work, Nov. 12. On Jan. 7, 1960, Florence E. Wall, AIC Life Member, will receive Honorary Membership.

Mr. Williams stated that the editor of THE CHEMIST presented a brief talk on AIC activities, as taken from THE CHEMIST, to the Alabama Chapter in August. In September, Dr. Jack P. Montgomery, charter member, received Honorary AIC Membership. Dr. Ray P. Dinsmore, Hon. AIC, made the presentation.

Mr. Schaar invited the Council to attend the meeting of the Chicago Chapter at which the Honor Scroll would be presented to Dr. Bjorksten.

Other Reports

Mr. Herstein, as chairman of the Committee on Professional Education, presented the report of the Committee. (See THE CHEMIST, Dec. 1959, p. 430).

A letter from Dr. Kurt M. Dubowski, chairman of the Committee on Clinical Chemistry, presented the wording of the motion in support of Clinical Chemists, which had been approved in principle at the 36th Annual Meeting. This wording was approved. (See THE CHEMIST, Nov. 1959, pp. 385-386).

The Secretary's report showed the total of active members to be 2847.

The deaths reported since the previous Council meeting were announced with deep regret, and the Council observed a moment of silence in their memory. (See page 33).

The following Fellows were given Emeritus status:

John H. Beltz
William A. Smith

To streamline the handling of applications for membership, it was decided that the deadline for receiving applications, to be decided upon at any given Council meeting, would be one month before the date of the meeting.

Committee Appointment

Dr. Kuhn announced that he had appointed the following persons to the Committee to Report on the Implementation of AIC Aims: Dr. Lloyd Reyerson, chairman; Karl M. Herstein, Dr. John H. Nair, Dr. William J. Sparks, and Dr. Max Tishler.

Upon motion, it was decided to rescind the action of the Council at the June meeting in accepting the concept of Pan American Affiliates, and to refer it to the Committee on the Implementation of AIC Aims.

Delegate

Dr. Kuhn announced that John Kotrady, as AIC Secretary, would serve as delegate to the Cooper Union Convocation on Nov. 2.

New Members

The following new members were elected:

FELLOWS:

Brown, Dr. Robert D.
Dean, School of Chemistry & Prof. of Physical Chemistry, University of Alabama, University, Alabama.

Cogswell, Finley A.
Manager, Pharmaceutical Mfg. Dept., American Cyanamid Company, Bound Brook, N. J.

Collins, J. Forrest, Jr.
Regional Manager, Research & Technical Activities, Texaco Inc., Atlanta, Georgia

Fox, Dr. Sidney
Lederle Laboratories, Pearl River, N. Y.

Hawthorne, Dr. M. Frederick
Head Metallo-Organic Group, Rohm & Haas Company, Redstone Arsenal, Ala.

Montermoso, Dr. Juan C.
Chief, Elastomer Branch, Quartermaster Research & Engineering Center, Natick, Mass.

Neesby, Toren E.
Director of Research, Schieffelin & Company, Inc., 30 Cooper Square, New York 3, N. Y.

Ott, Dr. Arnold C.
President, Administrative, Technical & Sales, The Ott Chemical Company, Muskegon, Mich.

Peper, Henry, Jr.
Harris Research Laboratories, 6220 Kansas Avenue, N.E., Washington 11, D.C.

Shover, Miss Elise C.
Assistant Director, Products Development Dept., American Bakeries Company, 1535 Marietta Road, N.W., Atlanta 18, Ga.

Skinner, Reginald C.
Research Engineer, Aeronautical Power Plant, Army Rocket & Guided Missile Agency, Huntsville, Ala.

Smith, Dr. Donald F.
Professor of Chemistry, University of Alabama, Tuscaloosa, Ala.

Stanerson, Dr. Bradford R.
Assistant to Executive Secretary, American Chemical Society, 1155-16th Street, N.W., Washington 6, D.C.

Straughan, Virgil E.
Project Supervisor, Dept. of Physics, Horizons, Inc., 2905 East 79th Street, Cleveland 4, O.

Thurlow, Dr. John F.
Co-owner & Co-founder, Gorham Laboratories, Inc., Gorham, Me.

Wood, Dr. Arthur E.
Head, Dept. of Chemistry, Mississippi College, Box 53, Clinton, Miss.

Young, Dr. Jay A.
Associate Professor & Chairman, Dept. of Chemistry, King's College, Wilkes-Barre, Pa.

MEMBERS:

Berni, Ralph J.
Assistant Chemist, Southern Regional Research Laboratories, 1100 Robert E. Lee Blvd., New Orleans 19, La.

Biggers, Dr. Robert E.
Research Chemist, Union Carbide Nuclear Company, Oak Ridge National Lab., Oak Ridge, Tenn.

Kaylor, Dr. Charles E.
Senior Chemist, Section Chief Chemical Thermodynamics Section, Thiokol Chemical Corp., Huntsville, Ala.

Oberle, Thomas M.
Laboratory Man, Economics Laboratory, Inc., 914 Guardian Bldg., St. Paul 1, Minn.

Selden, Murrell G.
Chemist, Albemarle Paper Manufacturing Company, Tredegar Laboratory, Richmond, Va.

Shediack, Joseph C., Jr.
Placement Manager for Chemists & Engineers, Busher Employment Agency, 220 West 42nd St., New York 36, N. Y.

Tanner, Dr. David
Research Associate, E. I. duPont de Nemours & Company, Experimental Station, Carothers Research Lab., Wilmington, Del.

laboratory services for the
FOOD and DRUG INDUSTRIES
Drug Evaluation, Food Additive Studies, Chemical and Biological Assays, Clinical Studies, Research
LaWALL & HARRISSON
Div. B, 1921 Walnut St., Philadelphia 3, Pa.
LOcust 3-4322

ASSOCIATES:

Askins, Robert E.
Chemist, Chemical Thermodynamics Section, Thiokol Chemical Corporation, Redstone Division, Huntsville, Ala.

Bartel, Richard H.
Chemist 1, Thiokol Chemical Corporation, Redstone Division, Huntsville, Ala.

Dahl, Thomas L.
Spectrographer, Twin City Testing & Engineering Laboratories, 2440 Franklin Avenue, St. Paul 14, Minn.

Elrod, Jimmie L.
Junior Chemist, Thiokol Chemical Corporation, Huntsville, Ala.

Larimer, Merlin W.
Chemist, Chemical Thermodynamics Section, Thiokol Chemical Corporation, Redstone Division, Huntsville, Ala.

Rees, Charles J.
Project Rocket Engineer, Thiokol Chemical Corporation, Redstone Arsenal, Ala.

REINSTATED AS A FELLOW

Snyder, Prof. Andrew J.
School of Chemistry, University of Alabama, Tuscaloosa, Ala.

RAISED FROM MEMBER TO FELLOW:

Abel, James E.
Research Chemist, Ordnance Corp., Dept. of Army, Picatinny Arsenal, Dover, N. J.

Bartovics, Dr. Albert
Head of Development, Borg Fabric Division, Amphenol-Borg Electronics Corp., Delaven, Wis.

Bianco, Louis J.
General Supervisor of Laboratories, Kraft Foods Company, 500 Peshtigo Court, Chicago 90, Ill.

Brown, David G.
Technical Director, Gar Precision Parts, Inc., 36 Ludlow Street, Stamford, Conn.

Cheremisinoff, Paul N.
General Manager & Vice President, American Polyglas Corporation, Carlstadt, N. J.

Cook, Hurley D.
Project Chemist, Research Laboratory, Standard Oil Co. of Indiana, N. Y. Avenue, Whiting, Ind.

Darbey, Albert
Analytical Director, Eastern Color & Chemical Company, Livingston Street, Providence, R. I.

Doherty, Harry G.
Senior Research Chemist, Res. & Dev. Dept., Socony-Mobil Oil Company, Paulsboro, N. J.

Drake, John R., Jr.
Research Assistant, Willow Run Laboratories, University of Michigan, Box 2008, Ann Arbor, Mich.

Formikell, Alec E.
Chemical Engineer, Oneida Ltd., Oneida, N. Y.

Goldberg, Melvin
Owner & President, Pesticide Advisory Service, 415 Lexington Avenue, New York 17, N. Y.

Halek, George W.
Research Chemist, Celanese Corp. of America, Central Research Labs., Summit, N. J.

Henderson, Madeline M.
Assistant to Program Director, National Science Foundation, Washington 25, D.C.

Hilsdorf, Rev. George J., S.J.
Head & Chairman, Dept. of Chemistry, St. Peter's College, 2641 Hudson Blvd., Jersey City 6, N. J.

Hotelling, Dr. Eric B.
Group Manager, Chemical Res. & Dev. Div., American Machine & Foundry Company, 689 Hope Street, Springdale, Conn.

Johnson, Menfred L.
President, Vitamin Technologists, Inc., 947 Maple Avenue, Los Angeles 15, Cal.

Jones, Albert J.
Research Chemist, Res. Lab., Glidden Company, 2701 Broening Highway, Baltimore, Md.

ROBINETTE RESEARCH LABORATORIES, INC.
Industrial Research • Consultation
Technical and Economic Surveys
Product Development
Chemical Market Research
16 East Lancaster Avenue
Ardmore, Pa. Tel. Midway 2-6457
Member Amer. Council Ind. Labs.

Jones, George R.
Partner & Patent Lawyer, Beale & Jones, 425 13th Street, N.W., Pennsylvania Bldg., Washington 4, D.C.

Kertesz, Dr. Dennis J.
Technical Director, Chicago Pharmacal Company, 5547 N. Ravenswood Ave., Chicago 40, Ill.

Krashin, Bernard R.
President, Colton Chemical Company, 1747 Chester Avenue, Cleveland 14, O.

Kre, John, Jr.
Assistant Supervisor, Physical Chemistry Res., Armour Research Foundation, 10 West 33rd Street, Chicago 16, Ill.

Kuti, Albert J.
Master Materials Engineer, Westinghouse Electric Corporation, 469 Sharpsville Avenue, Sharon, Pa.

Levin, Ernest M.
Physical Chemist, National Bureau of Standards, Washington 25, D.C.

Linden, Erik G.
General Engineer, U. S. Army Signal Corps, Engineering Labs., Ft. Monmouth, N. J.

Lund, Einor E.
Chief Chemist, Signal Chemical Manufacturing Company, 5020 S. Richmond Road, Bradford, O.

Mahar, Lyle J.
Chief Chemist, Coke Oven Laboratory, Bethlehem Steel Company, Lackawanna, N. Y.

Marocco, Frank J.
Applications Engineer, Tensolite Insulated Wire Company, Main Street, Tarrytown, N. Y.

McIntyre, Frank J.
Owner & Director, The Columbus Water & Chemical Testing Laboratories, 4628 Indianola Avenue, Columbus 14, O.

Melaccio, Frank
Chemical Engineer, Frattelli Branca & Company, 12 Desbrosses Street, New York 13, N. Y.

Michaels, Dr. Alan S.
Associate Professor, Dept. of Chemical Engineering, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge 39, Mass.

Munger, Charles G.
Vice President of Manufacturing & Research, Amercoat Corporation, 4809 Firestone Blvd., South Gate, Cal.

Odell, Loren B.
President, James Bute Company, P.O. Box 1779, Houston, Tex.

Perow, Robert H.
Technical Supervisor, Johns-Manville Corp., P.O. Box 9067, Long Beach 10, Cal.

Pompa, James P.
Proprietor, John Shaw Drug Company, Blooming Prairie, Minnesota

Rose, Jerome W.
Research Director, Wilson Imperial Company, 115 Chestnut Street, Newark, N. J.

Schactmeister, Sydney C.
Berrien County Health Service, 7 Church Street, St. Joseph, Mich.

Schlakman, Irving A.
Assistant to President, Bard Pharmaceuticals Inc., 45 Saw Mill River Road, Yonkers, N. Y.

Shea, Comdr. Thomas E., Jr.
Senior Reactor Supervisor, Dept. of Radiology, U. S. Naval Hospital, Bethesda, Md.

Sheffield, Oliver E.
Senior Research Explosives Chemist, U. S. Ordnance Corps, Dept. of Army, Picatinny Arsenal, Dover, N. J.

Sherrill, Dr. Joseph C.
Assistant Technical Director, Armour & Company, 1355 West 31st Street, Chicago 9, Ill.

Snyder, Henry A.
President, Interstate Chemical Company, 1228 West 12th Street, Kansas City, Mo.

Stinchfield, Carleton P.
Research Chemist, Norton Company, 1 New Bond Street, Worcester 6, Mass.

PHOENIX
CHEMICAL LABORATORY, INC.
Specialists in Petroleum Products
Chemical Tests • Physical Tests
Qualification Tests
3953 Shakespeare Avenue
CHICAGO 47, ILL.

Swanson, Arnold A.
Graduate Student in Biochemistry, Texas A & M College, College Station, Tex.

Wallace, John B.
Chemist, Wiley & Company, Inc., 904 North Calvert Street, Baltimore, Md.

Wangner, Philip F., Jr.
Research Chemist, E. I. duPont de Nemours & Company, Fabrics Division, Newburgh, N. Y.

Whitmore, Harry E.
Manager, Chemical & Sales Div., Reilly Tar & Chemical Corporation, 11 South Meridian St., Indianapolis 4, Ind.

Wilder, Frank W.
Staff Engineer & Washington Representative, Penniman & Browne, Inc., 412 Albee Bldg., Washington 5, D.C.

Williams, Roger, Jr.
President, Roger Williams, Inc., Box 426, Princeton, N. J.

RAISED FROM ASSOCIATE TO FELLOW:

Forchielli, Americo L.
Laboratory Director, Masury-Young Company, 76 Roland Street, Boston 29, Mass.

Keily, Dr. Hubert J.
Section Chief, Analytical Methods, Lever Brothers Company, Research Center, 45 River Road, Edgewater, N. J.

Mastrangelo, Dr. Sebastian
Research Chemist, Barrett Div., Allied Chemical Corp., S. Ridgeway Avenue, Glenolden, Pa.

Mecker, James E.
Chemist, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 19, O.

Plauka, John W.
Research Chemist, Johns-Manville Corporation, Research Center, Manville, N. J.

Shansky, Dr. Albert
Secretary-Treasurer, Sybil Ives, Ltd., 127 South Terrace Avenue, Mt. Vernon, N. Y.

Tames, Walter
Group Leader & Technical Sales Representative, Organic Pigments Dev., Ansbacher-Siegel Corporation, Rosebank, Staten Island, N. Y.

Weinstein, Reuben
Chemist, Paint & Varnish, Paxon Paint Products, Inc., 4606-12 Third Avenue, Brooklyn 20, N. Y.

RAISED FROM ASSOCIATE TO MEMBER:

Ahrens, Dr. Rolland W.
E. I. duPont de Nemours & Company, Savannah River Laboratory, Aiken, S. C.

Baker, Floyd B.
Staff Member, University of California, Los Alamos Scientific Laboratory, P.O. Box 1663, Los Alamos, N. M.

Campbell, Donald R.
Junior Research Chemist, General Tire & Rubber Company, 1708 Englewood Ave., Akron, O.

Carlson, Elizabeth Ann
Assistant Research Chemist, Evans Research & Development Corporation, 250 East 43rd Street, New York 17, N. Y.

Chadwell, Dr. Andrew J., Jr.
Project Engineer, High Performance Rocket Propellants, U. S. Air Force, Wright Air Development Center, Wright-Patterson AFB, O.

Ciula, Dr. Richard P.
Research Assistant, Dept. of Chemistry, University of Washington, Seattle 5, Wash.

Cronin, Miss Virginia A.
Assistant Librarian, Universal Oil Products Company, 30 Algonquin Road, Des Plaines, Ill.

Dean, Dr. Robert W.
Research Chemist, Wilson & Company, Res. & Dev. Div., 4200 South Marshfield Avenue, Chicago 9, Ill.

Duswalt, Mrs. Joan M.
Graduate Fellow, Purdue University, Lafayette, Ind.

Dutton, Robert G.
Chemical Engineer, Production Technical Div., Packard-Bell Electronics Corporation, 1631 10th Street, Santa Monica, Cal.

Eberts, Dr. Robert E.
Staff Member, Wyandotte Chemical Corporation, Inorganic Research, Wyandotte, Mich.

Farrar, Dr. Ralph C.
Research Chemist, Phillips Petroleum Company, Bartlesville, Okla.

Franco, Peter J.
Patent Attorney, 233 Broadway, New York 7, N. Y.

Giddings, William P.
Research Instructor, Dept. of Chemistry, University of Washington, Seattle 5, Wash.

Gold, Dr. Martin
321 Roseberry Street, Philadelphia 48, Pa.

Held, Samuel K.
Supervisor, Photo Products Research, Keuffel & Esser Company, 300 Adams Street, Hoboken, N. J.

Houlihan, William F., Jr.
Chief Chemist, Heatbath Corporation, Front Street, Indian Orchard, Mass.

Kashiwabara, Thomas T.
Research Supervisor, Keuffel & Esser Company, Adams & Third Streets, Hoboken, N. J.

Klinedinst, Dr. Paul E., Jr.
Active Duty, U. S. Army Ordnance Corps, 451 West King Street, York, Pa.

Kraebel, Dr. Charlotte M.
Research Chemist, B. F. Goodrich Company, Research Center, Brecksville, O.

Krening, Kenneth C.
Research Chemist, Shell Chemical Corporation, Box 211, Torrance, Cal.

Lauzau, Wilbur R.
Group Head, Carbon Products Dev., National Carbon Company, Town Street, Fostoria, O.

Lehikoinen, Urho A.
Research Chemist, Ethyl Corporation, Res. Labs., 1600 W. Eight Mile Road, Ferndale 20, Detroit, Mich.

Levine, Sumner
Supervisor of Quality Control, UBS Chemical Company, Div. of A. E. Staley Mfg. Co., 491 Main St., Cambridge 42, Mass.

Mayer, Dr. David P.
Research Chemist, Velsicol Chemical Corporation, 330 East Grand Avenue, Chicago 11, Ill.

Moore, Dr. Donald R.
Research Chemist, The Trubek Laboratories, East Rutherford, N. J.

Newby, Frank A., Jr.
Assistant Professor of Chemistry, East Tennessee State College, Johnson City, Tenn.

Pazdera, Harold J.
Supervisor, Analytical Dept., Chas. Pfizer & Company, 11 Bartlett Street, Brooklyn 6, N. Y.

Raymond, Leonard Z.
Research Associate, General Foods Research Center, 555 South Broadway, Tarrytown, N. Y.

Taylor, Dr. Lloyd D.
Chemist, Polaroid Corporation, 730 Main Street, Cambridge 39, Mass.

Wagner, Dr. J. Bruce, Jr.
Research Associate, Hammond Metallurgical Lab., Yale University, New Haven, Conn.

Weisbecker, Dr. Henry L.
Supervisor of Physical Studies, Abrasive Lab., Minnesota Mining & Mfg. Co., 900 Bush Avenue, St. Paul 6, Minn.

Young, Raymond H.
Instructor, University of Maine, Orono, Me.

Opportunities

Doris Eager, M.A.I.C.

Positions Available

Patent Attorney. At least 2 yrs. soliciting or general chemical patent experience. Position in Central Patent Department of Chicago firm. Box 17, THE CHEMIST.

Organic or physical chemist, B.S., experienced in adhesives used in connection with acoustical tile, wall board, cove facing, knowledge of fillers, solvents and resins helpful. Location Pennsylvania. Salary $7,000-$8,000. Box 11, THE CHEMIST.

Chemist, B.S., research and development work in asphalt roofing and siding. 2 to 3 years experience in asphalts. Location N. J. Salary $7,000. Box 13, THE CHEMIST.

Chemist, B.S., experienced in building paper, mineral wool, glass fibers. Customer service, introduce and develop new products and/or solution of special problems. Some travel. Location N. Y. Salary $10,000. Box 15, THE CHEMIST.

Research opportunities in the fields of chemistry, mathematics, metallurgy and physics. Grades GS-5—GS-7. Salary range $4,490-$5,430. Announcement No. 210 B. Grades GS-9—GS-15; Salary range $6,285 to $12,770; Announcement 209 B. Details from Executive Secretary, Board of U. S. Civil Service Examiners, National Bureau of Standards, Washington 25, D.C.

Locating and Employing European Scientists

At the Ohio AIC Chapter meeting, held Nov. 16, at Akron, Edward S. Tallmadge, industrial consultant from Milwaukee, Wisconsin, spoke on "Locating and Employing European Scientists and Engineers."

He pointed out that there exists in Europe a vast reservoir of trained scientific and engineering talent which has scarcely been tapped by American industry. He has spent a great deal of time in Europe talking to these people and has been very successful in obtaining suitable positions for them in the U. S.

Mr. Tallmadge made the point that it is not necessary to do a selling job on many of these people and offer them many fringe benefits, such as payment of transportation, etc. Many of them are most anxious to come here for personal reasons, and it has been his experience that if they are carefully selected they will almost invariably elect to stay in this country.

Friends Departed

DR. WALTER J. MURPHY, 1899-1959

Resolution on the Death of Dr. Walter J. Murphy, Hon. AIC

(The National Council of The American Institute of Chemists adopted the following Resolution at its meeting held December 8, 1959.)

Resolution

WHEREAS, with the death of Walter J. Murphy, THE AMERICAN INSTITUTE OF CHEMISTS has lost a man who was one of its Gold Medalists and Honorary members, a former Treasurer, and a long time member of the Advisory Board of THE CHEMIST, and

WHEREAS, Walter J. Murphy was an *exemplar par excellence* of the highest ideals of the chemical profession for which THE AMERICAN INSTITUTE OF CHEMISTS stands, never hesitating to give inspired leadership to the advancement of the chemical profession, and ever ready to fight for the right as he saw it, and

WHEREAS, through the expansion and development of The ACS News Bureau he has created means for better public understanding of chemistry and the chemical profession, and he was instrumental, through the development of ACS Applied Publications, in bringing to chemists a broader and earlier understanding of new discoveries and world

progress in chemistry, and

WHEREAS, his loyalty, his friendship, his great ability, and his efforts were devoted to the betterment of his fellow chemists,

BE IT RESOLVED that the Council of THE AMERICAN INSTITUTE OF CHEMISTS expresses its deep sorrow for the untimely death of Dr. Walter J. Murphy, Honorary AIC, and

BE IT ALSO RESOLVED that this Resolution be published in THE CHEMIST, a copy sent with the sympathy of the Council to his family, and a copy to the Board of Directors of The American Chemical Society.

A splendid account of the career of Dr. Walter J. Murphy appears in the Dec. 7, 1959, issue of *Chemical and Engineering News.*

Stewart Joseph Lloyd

Dr. Stewart J. Lloyd, F.A.I.C., dean emeritus of the School of Chemistry and Metallurgy, University of Alabama, died August 6, 1959.

Dr. Lloyd was a native of Hamilton, Ontario, Canada. He received his B.A. degree from the University of Toronto in 1904; the M.S. degree from McGill University in 1906, and the Ph.D. degree from the University of Chicago in 1910. In 1909, after completing his dissertation, he accepted an adjunct professorship of chemistry and metallurgy at the University of Alabama, Tuscaloosa. He was elevated to the chairmanship of the department on receipt of his doctorate.

The School of Chemistry, Metallurgy and Ceramics was established in 1928 and Dr. Lloyd was appointed the dean, a position he held until he retired in 1952 after 43 years of teaching.

Dr. Lloyd was a charter member of THE AMERICAN INSTITUTE OF CHEMISTS in 1923 and he was a charter member of the Southern Association of Science and Industry. He was one of the founders of the Alabama Academy of Science in 1924 and served as its president, 1926-27. He was a member of the following societies: American Chemical Society (president, Alabama Section, 1915); Electrochemical Society; American Institute of Chemical Engineers; AIC (president, Alabama Chapter 1951); TAPPI; The Chemical Society (Great Britain); The Faraday Society (Great Britain); Deutsche Chemische Gesellschaft; The Society of Rheology; American Physical Society; the Newcomen Society; Society for Freedom in Science; Industrial Chemical Society; Canadian Institute of Chemists; American Linguistic Society; Sigma Xi; Phi Beta Kappa; and Rotary.

Honors came to Dr. Lloyd. He received the Honorary D.Sc. degree from the University of Alabama in 1938. In 1957, he was awarded the Herty Medal, and in May 1959, he had the honor of participating in the ceremony of naming the Chemistry Building, Lloyd Hall.

He was the author or co-author of 63 papers and six patents. He was consultant to the Alabama Power Company, the Swan Chemical Co., the U. S. Army Corps of Engineers, the Gulf States Paper Co., and the Alabama Geological Survey. He was acting director of the Alabama Geological Survey from 1938 to 1944, and at the time of his death he was assistant oil and gas supervisor for Alabama and assistant State geologist.

Dr. Lloyd was a leader with vision and he helped in the development of Alabama and its resources. He was the moving spirit in the organization of the Southern Research Institute, Birmingham.

His wife, the former Miss Edith Marian Dawson survives as well as his three daughters, Mrs. A. W. Naylor, Ph.D.; Mrs. V. L. Dunlap, LL.B., and Mrs. H. S. Wilson, LL.B.

—Dr. Emmett B. Carmichael, F.A.I.C.

Dr. Charles S. Fazel, F.A.I.C., born May 31, 1893, Wichita, Kan., died May 20, 1959, Santa Cruz, Calif. He retired in 1956 as vice president of the Nitrogen Division of Allied Chemical Corporation, after thirty years with the firm. His degrees were, A.B. University of Wichita; M.A. and Ph.D. (1920) University of Illinois.

Thomas James Lynch, F.A.I.C., born April 19, 1907, died Sept. 26, 1959. His degrees were, B.Ch. and B.S. (1937) Northeastern University, and LL.B. (1952) American University. He had

been engineer with the U. S. Navy Department, Washington, D.C.; patent examiner, U. S. Patent Office, and from 1952 to 1959, patent advisor, U. S. Army Ordnance Missile Command, Redstone Arsenal, Huntsville, Ala.

Dr. George W. Schaeffer, F.A.I.C., born Dec. 12, 1917, died Sept. 11, 1959. His degrees were, B.S. Central YMCA College and Ph.D. (1946) the University of Chicago. He became director of the Department of Chemistry at St. Louis University, St. Louis, Mo., in 1949, a position he held at the time of his death.

William H. Schaller, F.A.I.C., born April 29, 1912, died Sept. 19, 1959. His degrees were, B.S. Kansas City College of Pharmacy and B.S. Chemistry (1945) University of Kansas City. He was employed by the U. S. Alcohol Tax & Narcotic Bureau as United States Field Chemist continuously from 1943, and was located at the Post Office Building, St. Paul 1, Minn., at the time of his death.

Dr. Leonard Smidth, F.A.I.C., born July 4, 1899, in Texas, died July 20, 1959 at Wallingford, Pa. His degrees were, B.A., Rice Institute; M.A. and Ph.D. (1925) Columbia University. He was with Sylvan Plastics, Inc., New York, N. Y. as technical director from 1940 to 1956, when he joined the Research & Development Division of American Viscose Corp., Marcus Hook, Pa. He held a number of patents in the plastics field.

The 47th Annual Meeting of the Compressed Gas Association, Inc., (11 W. 42nd St., New York 36, N. Y.) will be held Jan. 18-20 at the Waldorf-Astoria Hotel, New York, N. Y.

THE LENTO PRESS, INC.

Distinctive Printing

441 Pearl Street New York, N.Y.

WOrth 2-5977

On Legislation

The Abernethy Bill: Introduced in the U. S. House of Representatives, referred to Committee on Agriculture; subsequently reported and committed to Committee of the Whole House, Aug. 26, 1959. The Bill is for the purpose, "To Create an Agricultural Research and Development Commission, to provide for more effective research programs designed to expand markets for agricultural and forestry products, to reduce surpluses, to increase farm income, and to benefit consumers, and for other purposes." The bill has a number of implications, including the extension of Federal study and control into private enterprise. It creates a Commission and in Sec. 4 defines, "Powers and Duties of the Commission," as follows:

(a) "The Commission shall have the duty of appraising agriculture's research needs, opportunities, and accomplishments and developing authoritative recommendations and reports thereon. This appraisal shall include the effectiveness of current research programs, to meet existing problems and to achieve the fullest potentialities of agriculture. The Commission shall recommend areas of research which should be initiated, expanded, terminated, or redirected.

(b) "In the discharge of these duties the Commission is empowered to: (1) Consult with the officials of the U. S. Department of Agriculture, land-grant colleges, other universities, and research institutions, trade associations and private firms, and others performing or sponsoring research on agricultural commodities or problems."

"Department of Science and Engineering—Bills to establish a commission to study the desirability and functions of a Cabinet-level post of science and technology (engineering, we hope) have not been acted upon in the Senate or the House. The bills are based on recommendations made to the Senate Government Operations Committee by Engineering Joint Council's President Needles and Vice President Kinzel and others at hearings this spring. There is a strong possibility of Senate action next year which

was deferred this year in the rush to recess."

—*Engineer* (Compiled by Engineers Joint Council, 29 W. 39th St., New York 18

"Fuels and Policy—Congress has given the states more authority on regulations of isotopes and other atomic radiation sources. Eventual loosening of federal controls on sites and specifications for atomic plants may herald in a new era wherein expansion is determined by factors, different from those employed by the heretofore federal monopoly."

—*Engineer,* Nov. 11, 1959

Dr. Wayne E. Kuhn, AIC President, notes: "The veto of the Coal Research Bill and the reasons should be of interest to all chemists." Reference is to an article which appeared in the Oct. 16, 1959, issue of *NAM News.* The National Association of Manufacturers, 2 East 48th St., New York, N. Y.

"Open for Compromises"— a discussion of S 690, introduced in the U. S. Senate, which tried to create a special authority to be solely responsible for industrial uses and new crops research. Reference: front cover, *Chemurgic Digest,* Sept. 1959.

Professional Reprints Available

(Free unless otherwise noted)

"Basic and Applied Engineering Research," by C. Guy Suits, vice president and director of research, General Electric Co., Schenectady, N. Y. Request "Res. Lab. Reprint 3225" from the company.

"American Degree Mills"—"A report on the slipshod standards of degree granting authority in the U. S. and means of improving them." American Council on Education, 1785 Massachusetts Ave., Washington 6, D.C. ($1.00).

"Who Goes to Graduate School?" "A study of the Decision to Enter Graduate Training; reasons for seeking advanced education; characteristics of students and decision factors for the specialized studies; by G. L. Gropper and R. Fitzpatrick, American Institute for Research, 410 Amberson Ave., Pittsburgh, Pa.

"Demand for Engineers—1959"

"Engineering and Scientific Education. Proceedings of Conference"

"Trends in Engineering Enrollment—1959"

"Trends in Technical Institute Enrollment"

"Engineering Graduate Placement Survey"

Request any or all of these five reprints from Engineering Manpower Commission of E.J.C., 29 W. 39th St., New York 18, N. Y.

"Why Western Electric Opposes the CWEPE-N Union." Aug. 1959. Request from Western Electric Co., Inc., 195 Broadway, New York, N. Y.

"Major Medical Insurance and the Disability Benefits Law." Report. New York Chamber of Commerce, 65 Liberty St., New York 5, N. Y.

"Soviet Russia Poses a New Industrial Threat." Reprint from *Buffalo Business,* Apr. 1959.

"Education and Research in Soviet Russia." Reprint from *C & EN,* April 14, 1958.

Both of these reprints may be requested from the author, Dr. Raymond Ewell, F.A.I.C., vice-chancellor for research, University of Buffalo, Buffalo, N. Y.

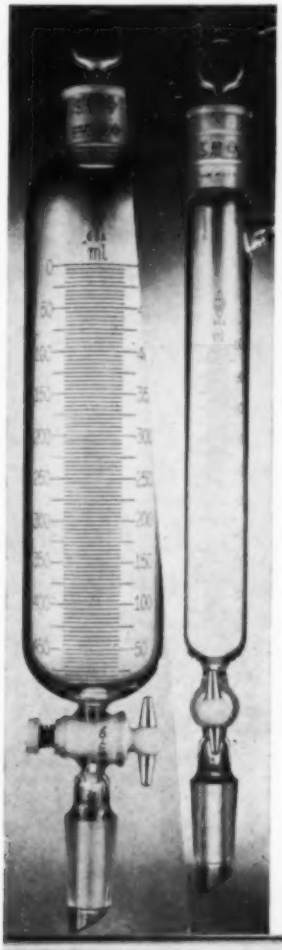
"Evaluating the Evaluators." By Dr. D. B. Keyes, F.A.I.C. Reprint from *Industrial & Engineering Chemistry,* June 1959. Request from the author at 480 Park Ave., New York 22, N. Y.

"Policy Statement on Air Pollution and its Control."

"Raising Professional Standards and Improving Employment Conditions for Engineers." Request these from Engineers Joint Council, 29 W. 39th St., New York 18, N. Y.

The Society of Plastics Engineers, Inc., will hold the 16th Annual Technical Conference at The Conrad Hilton, Chicago, Jan. 12-15.

The American Astronautical Society will hold its 6th Annual Meeting, Jan. 18-21, at the Statler-Hilton Hotel, New York, N. Y.



Now . . .

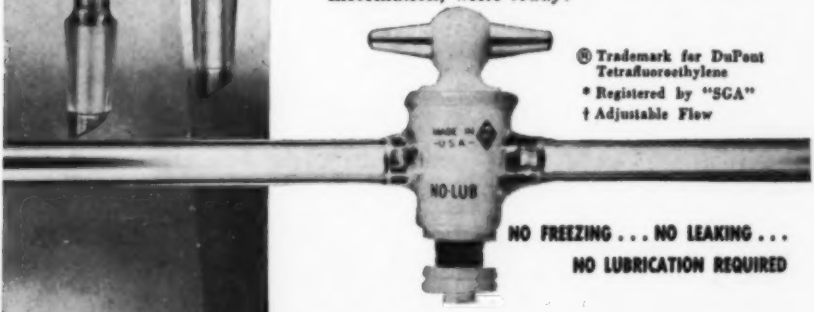
GYCO STOPCOCKS

feature *Adjustable Flow* — at no extra cost!

other major features . . .
TEFLON® plug with 1:5 taper
NO-LUB* glass barrel

At last—a stopcock that permits you to control the flow easily . . . from ultra-fine adjustment to full discharge! A slight turn of the plug handle reduces the flow for accurate titration or precise shut-off at any given point. Gyco Stopcocks with "AF†" plugs completely eliminate the need for special attachments and cumbersome needle valves.

All future Gyco Stopcocks, except those with 120° bore or "T" bore, will be supplied with the new "AF†" feature—the result of a recently-designed Teflon plug with unique bore. The entire Gyco Stopcock line is listed in Combined Catalog 59; also in "What's New for the Laboratory" No. 35. If you do not have complete information, write *today!*



® Trademark for DuPont Tetrafluoroethylene
* Registered by "SGA"
† Adjustable Flow

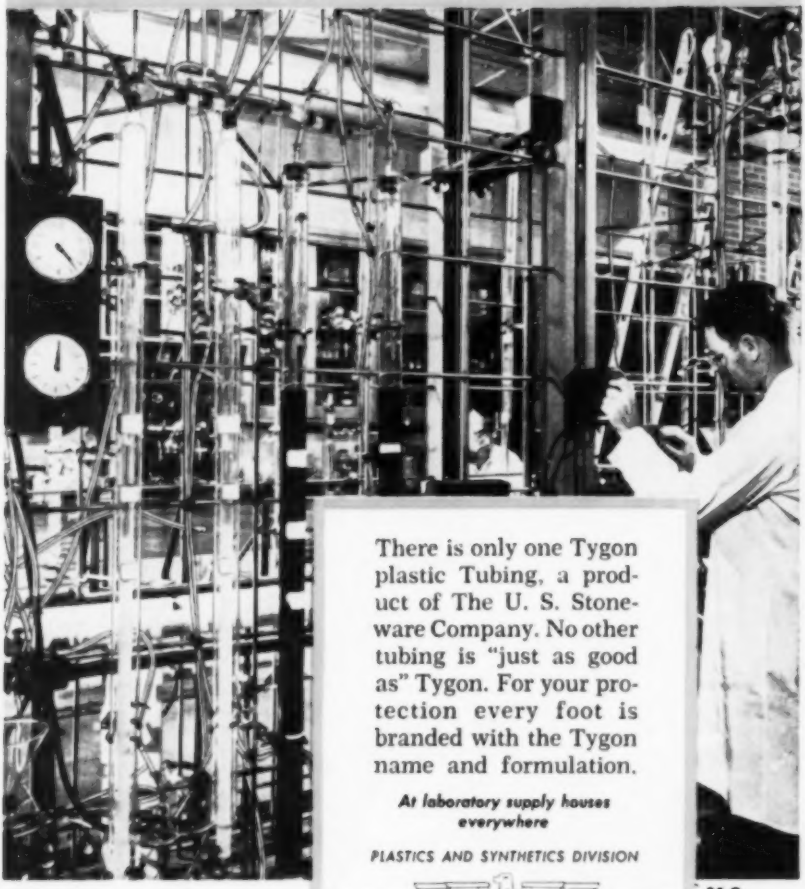
NO FREEZING . . . NO LEAKING . . .
NO LUBRICATION REQUIRED

SCIENTIFIC GLASS APPARATUS CO. INC.
BLOOMFIELD, NEW JERSEY

LABORATORY . . .
♦ APPARATUS
♦ INSTRUMENTS
♦ CHEMICALS
♦ GLASSWARE

Branch Sales Offices: Albany 5, N. Y. • Boston 16, Mass. • Elk Grove Village, Ill. • Philadelphia 43, Pa. • Silver Spring, Md.

TYGON® CLEAR • FLEXIBLE plastic TUBING



There is only one Tygon plastic Tubing, a product of The U. S. Stoneware Company. No other tubing is "just as good as" Tygon. For your protection every foot is branded with the Tygon name and formulation.

At laboratory supply houses everywhere

PLASTICS AND SYNTHETICS DIVISION

85-G

We are grateful to The Dow Chemical Company, Midland, Michigan, for permission to use this photograph of Tygon Tubing as used in one of their laboratories.

U. S. STONEWARE

AKRON 9, OHIO